

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
6 September 2002 (06.09.2002)

PCT

(10) International Publication Number
WO 02/068029 A3

(51) International Patent Classification⁷: **A61M 15/08**

(21) International Application Number: **PCT/IB02/01522**

(22) International Filing Date: 26 February 2002 (26.02.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0104692.9 26 February 2001 (26.02.2001) GB

(71) Applicant (for all designated States except US): **OPTI-
NOSE AS** [NO/NO]; Løkkaskogen 18c, N-0773 Oslo
(NO).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **DJUPESLAND, Per,**
Gisle [NO/NO]; Løkkaskogen 18C; N-0773 Oslo (NO).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,
SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:
12 December 2002

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 02/068029 A3

(54) Title: NASAL DELIVERY DEVICES

(57) Abstract: A nasal delivery device for and a method of delivering a substance to a nasal cavity of a subject, the delivery device comprising: a delivery unit (1) for delivering a flow entraining a substance to one nostril of a subject, the delivery unit including a nosepiece (6) for fitting to a nostril of the subject; and a flow resistor (2) unit for fitting to the other nostril of the subject, the flow resistor unit including a progressive resistor (28) for progressively providing an increasing flow resistance to the delivered flow.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 02/01522

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61M15/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00 51672 A (DJUPESLAND PER GISLE) 8 September 2000 (2000-09-08) cited in the application	21,23-37
Y	page 17, line 22 -page 18, line 2	1-3, 6-20,22
A	the whole document	4,5
Y	WO 98 53869 A (KELDMANN ERIK ;KELDMANN TROELS (DK); DIRECT HALER A S (DK); PELAEZ) 3 December 1998 (1998-12-03) page 13, line 25 -page 15, line 23 abstract; figures	1,3, 6-20,22
Y	DE 298 14 024 U (HEYDE REGINE) 8 October 1998 (1998-10-08) page 1, paragraph 2; figures	2
	--- -/-	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the International filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the International filing date but later than the priority date claimed

T later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the International search

9 September 2002

Date of mailing of the International search report

18/09/2002

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Valfort, C

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 02/01522

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 727 546 A (SHEPHERD MICHAEL TREVOR ET AL) 17 March 1998 (1998-03-17) abstract; figures .. -----	3, 4, 22

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 02/01522

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: **38-46**
because they relate to subject matter not required to be searched by this Authority, namely:
Method of treatment of the human body by therapy (Art.17.2.a.1) and Rule 39.1.1v) PCT)
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT
Information on patent family members

International Application No
PCT/IB 02/01522

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0051672	A	08-09-2000	AU 2822700 A	21-09-2000
			BR 0008650 A	26-12-2001
			CN 1342093 T	27-03-2002
			EP 1161274 A1	12-12-2001
			EP 1180378 A2	20-02-2002
			GB 2349092 A , B	25-10-2000
			WO 0051672 A1	08-09-2000
			NO 20014182 A	01-11-2001
			TR 200102563 T2	22-04-2002
WO 9853869	A	03-12-1998	AU 730843 B2	15-03-2001
			AU 7639298 A	30-12-1998
			BR 9809499 A	20-06-2000
			CN 1258223 T	28-06-2000
			WO 9853869 A1	03-12-1998
			EP 0986413 A1	22-03-2000
			HU 0002538 A2	28-12-2000
			JP 2001526577 T	18-12-2001
			NO 995798 A	26-11-1999
			NZ 501157 A	27-04-2001
			PL 336975 A1	31-07-2000
			SK 160499 A3	11-07-2000
			TR 9902899 T2	22-05-2000
DE 29814024	U	08-10-1998	DE 29814024 U1	08-10-1998
US 5727546	A	17-03-1998	AT 172124 T	15-10-1998
			CA 2169760 A1	23-02-1995
			DE 69413989 D1	19-11-1998
			DE 69413989 T2	08-04-1999
			DK 714314 T3	23-06-1999
			EP 0714314 A1	05-06-1996
			ES 2122319 T3	16-12-1998
			FI 960704 A	16-02-1996
			WO 9505208 A1	23-02-1995
			JP 9501581 T	18-02-1997
			NO 960610 A	28-03-1996
			SG 82544 A1	21-08-2001
			US 6109261 A	29-08-2000